I CLAIM:

1. A cross-linkable or cross-linked rubber composition which is usable for constituting a tire tread, said composition being based on a diene elastomer and a hydrocarbon plasticizing resin which (i) is not based on cyclopentadiene or dicyclopentadiene, (ii) is miscible in said diene elastomer, (iii) has a glass transition temperature of between 10°C and 150°C and (iv) has a number-average molecular weight of between 400 g/mol and 2000 g/mol, wherein said composition comprises:

from 30 to 100 phr of a first diene elastomer having a glass transition temperature (Tg) of between -65°C and -10°C;

from 70 to 0 phr of a second diene elastomer having a glass transition temperature (Tg) of between -110°C and -80°C;

from 5 phr to 35 phr of a hydrocarbon plasticizing resin; and

from 0 phr to 26 phr of a paraffinic, aromatic or naphthenic plasticizing oil.

2. The rubber composition according to Claim 1, wherein the composition comprises said plasticizing oil in a quantity of from 0 phr to 15 phr.

3. The rubber composition according to Claim 2, wherein the composition is devoid of said plasticizing oil.

4. The rubber composition according to Claim 2, wherein said first diene elastomer is present in a quantity of from 30 to 50 phr, and said second diene elastomer is present in a quantity of from 70 to 50 phr.

5. The rubber composition according to Claim 3, wherein said hydrocarbon plasticizing resin is present in a quantity of from 25 phr to 35 phr.

6. The rubber composition according to Claim 1, wherein the rubber composition further comprises a reinforcing filler.

7. The rubber composition according to Claim 6, wherein the reinforcing filler is a reinforcing white filler.

8. The rubber composition according to Claim 6, wherein the reinforcing filler is a blend of carbon black and a reinforcing white filler.

9. The rubber composition according to Claim 1, wherein said first diene elastomer is selected from the group consisting of solution-prepared styrene-butadiene copolymers, emulsion-prepared styrene-butadiene copolymers, natural polyisoprenes, synthetic polyisoprenes having a cis-1,4 linkage content greater than 95% and mixtures thereof, and said second diene elastomer comprises a polybutadiene having a cis-1,4 linkage content greater than 90%.

10. The rubber composition according to Claim 9, wherein said composition comprises a solution-prepared styrene-butadiene copolymer which has a Tg of between -50°C and -15°C.

11. The rubber composition according to Claim 9, wherein said composition comprises an emulsion-prepared styrene-butadiene copolymer which has a Tg of between -65°C and -30°C.

12. The rubber composition of claim 1, wherein said composition comprises a blend of said first and second diene elastomer.

13. The rubber composition according to Claim 12, wherein said first diene elastomer is a solution-prepared styrene-butadiene copolymer and said second diene elastomer is a polybutadiene having a cis-1,4 linkage content greater than 90%.

14. The rubber composition according to Claim 1, wherein said hydrocarbon plasticizing resin has a glass transition temperature of from 30°C to 100°C.

15. The rubber composition according to according to Claim 1, wherein said hydrocarbon plasticizing resin has a number-average molecular weight of between 400 and 1000 g/mol, and a polymolecularity index less than 2.

16. A tread for a tire comprising the rubber composition in accordance with Claim 1.

17. A tire comprising a tread according to Claim 16.